Australian Bureau of Statistics

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Summary

About this Release

ABOUT THIS RELEASE

Replaces: Labour Force, Australia 6203.0

This publication is the flagship release for all ABS labour statistics. It draws together data from a range of sources, mostly ABS household and business surveys, to provide an overall picture of the labour market. The key purpose of this publication is to raise awareness of the data available, so that users will be able to use it more effectively.

It contains tables for core data items, presenting the most recent data available at a particular date (rather than relating to a particular reference period). It is also able to be used to announce the release of supplementary surveys and infrequent surveys. Note that, in addition to a brief article in this publication, these would also have separate releases, which would not be delayed by the release in this publication.

The publication is also used to release annual data on Indigenous labour force status, and annual supplementary measures of labour underutilisation. It includes a range of feature articles, both analytical and technical, which will assist users in understanding and interpreting the data and will also promote the range of data available from the ABS labour statistics program. It will be used to announce any changes to labour series or releases.

The publication contains brief explanatory notes, outlining each data source, but referring to the relevant releases, and to Labour Statistics: Concepts, Sources and Methods 6102.0, for more detail.

Unemployment and participation rates in Australia: a cohort analysis (Feature Article)

Feature Article - Unemployment and participation rates in Australia: a cohort analysis

This article was published in the July 2003 issue of **Australian Labour Market Statistics**

(cat. no. 6105.0).

INTRODUCTION

A person's experience of the labour market will vary according to a number of factors, including the economic conditions at any given time, and their age. For example, the chance of someone finding a job decreases during a recession, while the likelihood of participating in the labour force varies as circumstances change, particularly in relation to family and education commitments. Factors affecting someone's peer group can also have a similar influence on labour market activity — people of different generations may have different expectations and experiences.

COHORT ANALYSIS

This article presents the results of an analysis of unemployment and labour force participation rates, based on following the labour market outcomes of successive groups of individuals over time, using data from the Labour Force Survey. Twenty-one groups (birth cohorts) of people were included, with each group born in successive years between 1937 and 1957. Thus, the analysis used data for the June of each year from 1981 to 2001, including persons aged 24 to 44 in 1981, 25 to 45 in 1982, and so on, to including persons aged 44 to 64 in 2001.

The analysis (a regression-based decomposition analysis) disentangles the effects of three separate components which can influence unemployment and labour market participation — year effect, age effect and cohort effect.

Year effect

This is the effect that the **year** had on any individual's chances of being unemployed or participating in the labour force (whatever their age). The year effect captures movements over time that arise from the economic cycle. During periods of strong economic growth, unemployment will, in most cases, decrease for all age groups, while during economic downturns, unemployment will tend to move upwards for all age groups. Participation rates could be expected to move in the opposite direction to unemployment.

Age effect

This is the effect that a person's **age** had on their chances of being unemployed or participating in the labour force (whatever the year). The age effect captures movements over the life cycle. Usually younger people experience higher levels of unemployment than those in older age groups. Their level of unemployment then drops as they gain increased levels of education and work experience. It begins to rise again for ages closer to retirement age. Again, participation rates could be expected to move in the opposite direction.

Cohort effect

This is the effect that the **cohort** into which a person was born had on their chances of being unemployed or participating in the labour force (whatever the year and whatever their age). The cohort effect captures movements in the unemployment rate that are exclusive to that particular cohort, and will influence unemployment rates for the particular cohort over the whole period. For example, women born in the 1930s have had different labour market experiences to those born in the 1950s, throughout the economic cycle.

Method

In each case values were estimated for all three effects. In other words, in year Y, the probability that an individual of age A, belonging to cohort C, is unemployed (or participates in the labour force) can be decomposed into three elements:

year effect (for year Y) + **age effect** (for age A) + **cohort effect** (for cohort C)

These effects represent the difference between the rate for a particular year, age or group, and: the average rate for the period (for the year effect); the rate for persons aged 24 (for the age effect); the rate for persons born in 1957 (for the cohort effect).

More details about the method of analysis are available from the ABS (see the contact information at the end of this article).

THE EFFECT OF THE YEAR

Examining the year effect for unemployment and participation rates reveals the influence of the business cycle on the labour market. Figure 1 shows the peaks and troughs of the business cycle, measured by percentage year-on-year changes in Australia's gross domestic product (GDP), between 1981 and 2001. During this period there were two recessions in Australia, around 1982 and 1991.

FIGURE 1: CHANGES IN ANNUAL GDP—1981–2001

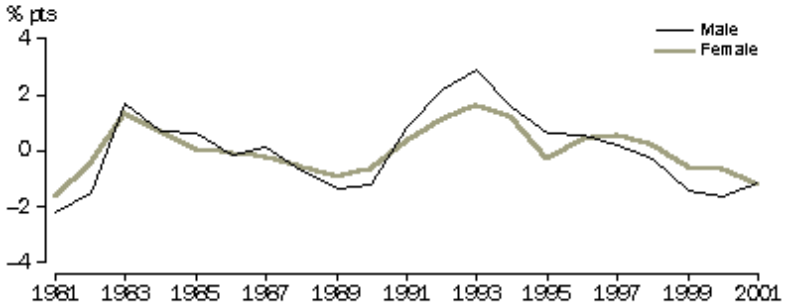
GDP chain volume measures: Reference year 2000–01

Source: *Australian National Accounts: National Income, Expenditure and Product* (cat. no. 5206.0).

Unemployment

During periods of economic growth the unemployment rate tends to fall, while the unemployment rate rises during recessionary periods when there is a reduction in the demand for labour. Figure 2 shows the effect the year had on unemployment, after controlling for age and cohort effects — the coefficients of the year effect are expressed in percentage point changes from the average unemployment rate over the period.

FIGURE 2: YEAR EFFECTS, Unemployment rate



Notes: The year effect represents the difference between the rate for a particular year and the average rate for the period. Thus, the year effects sum to zero.

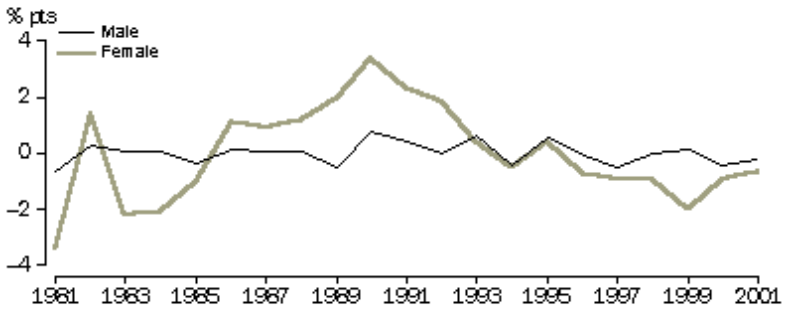
The year effect follows the pattern of the business cycle shown in Figure 1, with peaks in unemployment in the early 1980s and early 1990s — roughly corresponding with the years of recession, though tending to lag the troughs of the recession slightly.

When compared to men, unemployment among women seems less strongly associated with the business cycle, as the peaks and troughs tend to be less extreme. This corresponds with other studies which show that during recessionary periods unemployed men tend to stay in the labour force while unemployed women tend to exit the labour force (e.g. Gregory, R. (1991), 'Jobs and Gender: A Lego Approach to the Australian Labour Market', **Economic Record**, 67 (supplement), pp 20-40.).

Participation

Figure 3 shows the year effect for men and women's labour force participation. Comparison with figure 1 shows that women's labour force participation roughly follows the business cycle, with troughs at similar points, although the participation rate for women has varied less since the early 1990s. The year effect for men is not statistically significant, indicating the male participation rate (unlike unemployment) is not strongly influenced by the business cycle. Women's decisions to participate in the labour market appear to be more strongly influenced by the economic cycle than men's, as noted above. This may reflect a propensity to exit the labour market rather than remain unemployed when jobs become harder to find.

FIGURE 3: YEAR EFFECTS, Participation rate



Notes: The year effect represents the difference between the rate for a particular year and the average rate for the period. Thus, the year effects sum to zero.

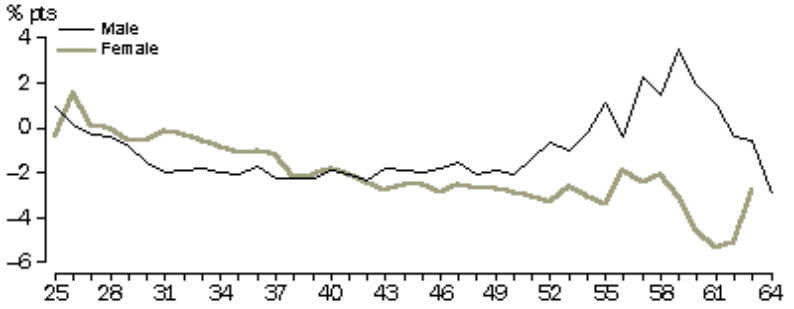
THE EFFECT OF AGE

Unemployment

The relationship between age and unemployment, after controlling for year and cohort

effects, is shown in Figure 4. Younger workers, who have only recently entered the labour market, experience higher levels of unemployment than middle aged workers, who are better established in employment. Among men, the relationship between age and unemployment remains relatively steady until their early 50s when it begins to rise, peaking at age 59. The age effects for women are considerably different, with the unemployment rate continuing to decline after age 50. Again this could be explained by women being more likely to exit the labour market than to remain unemployed. The sharp drop in unemployment rates among both men and women close to age 60 may be attributed to workers retiring from the labour market.

FIGURE 4: AGE EFFECTS, Unemployment rate

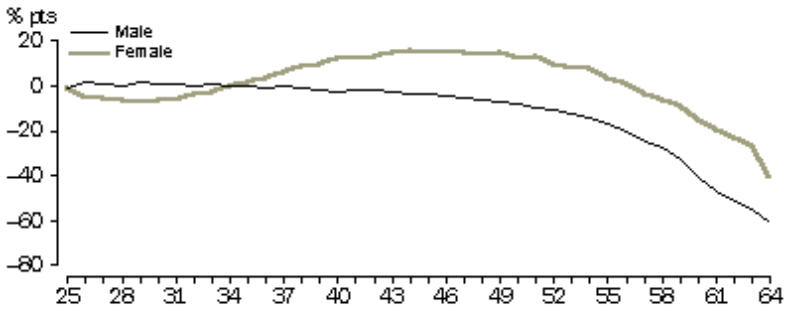


Notes: The age effect represents the difference between the rate for a particular age and the rate for persons aged 24 (which thus has an effect of zero and is excluded from this graph).

Participation

The relationship between age and participation, after controlling for year and cohort effects, is shown in Figure 5. Among men, labour force participation gradually declines with age until they reach their mid 50s, at which point it begins to decline more sharply. The participation rate for women is lower during the years that many women have children — around 25 to 35 years of age — but then increases until age 50, when it then falls in a similar manner to the male rate. The lower participation rates for people aged over 50 could be attributed to various factors, including voluntary early retirement, health problems, and choosing to leave the labour force rather than remain unemployed.

FIGURE 5: AGE EFFECTS, Participation rate



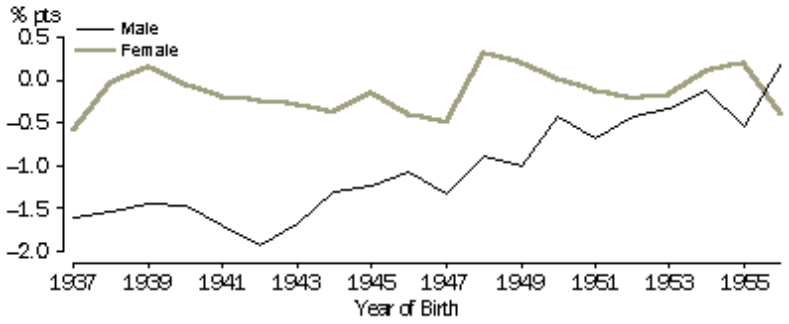
Notes: The age effect represents the difference between the rate for a particular age and the rate for persons aged 24 (which thus has an effect of zero and is excluded from this graph).

THE EFFECT OF THE COHORT

Unemployment

When compared to the age and year effects, the influence someone's cohort group has on their chances of being unemployed is relatively small (see Figure 6). However, the cohort effect for unemployment is statistically significant for men.

FIGURE 6: COHORT EFFECTS, Unemployment rate

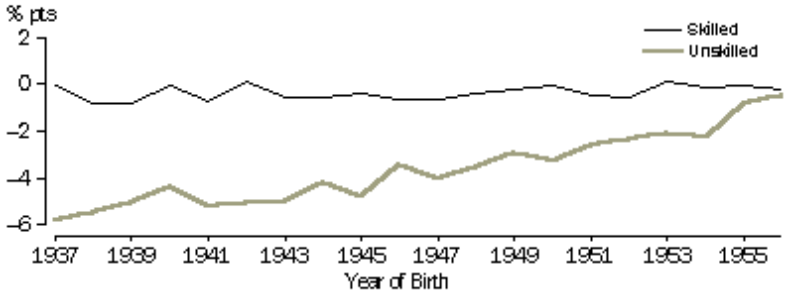


Notes: The cohort effect represents the difference between the rate for a particular cohort and the rate for persons born in 1957 (which thus has an effect of zero and is excluded from this graph).

The male cohort effect indicates that, after controlling for age and year effects, older cohorts (that is, men born before around 1945) experienced, on average, lower unemployment rates than their younger counterparts. For example, over the 20 year period, the unemployment rate for men in the 1956 birth cohort is around 0.2 percentage points higher on average than the unemployment rate for men born in 1937.

The cohort effect on unemployment rates was stronger for unskilled men than skilled men, as shown in Figure 7. Here, the skilled group is defined as comprising people who completed high school as well as those who received some post school qualification. Among skilled men, there was little difference between the cohorts. The unskilled group comprised those who did not complete high school. The results show that, after controlling for the effects of age and year, unemployment tended to be higher among unskilled men from later generations.

FIGURE 7: COHORT EFFECTS, Unemployment rate—Educational attainment: Males

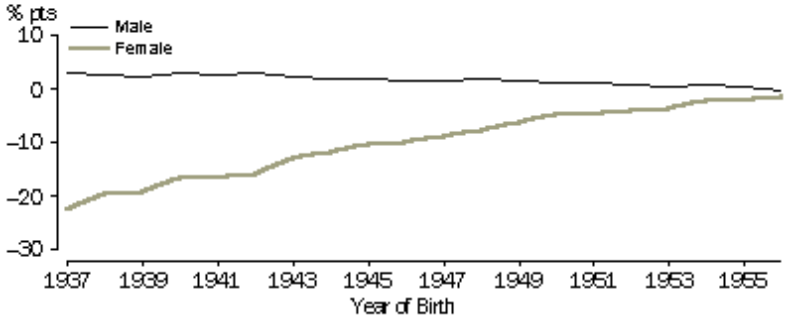


Notes: The cohort effect represents the difference between the rate for a particular cohort and the rate for persons born in 1957 (which thus has an effect of zero and is excluded from this graph).

Participation

Figure 8 shows the relationship between a person's cohort and their chances of participating in the labour force. Although the cohort effect is significant for both men and women, it is much stronger for women. After controlling for age and year effects, men born in 1937 experienced participation rates 3 percentage points higher on average over the period than men born in 1956. Conversely, women born in 1936 experienced participation rates 23 percentage points lower on average than women born in 1956, after controlling for age and year effects.

FIGURE 8: COHORT EFFECTS, Participation rate



Notes: The cohort effect represents the difference between the rate for a particular cohort and the rate for persons born in 1957 (which thus has an effect of zero and is excluded from this graph).

Changing employment opportunities for women resulting from changing social attitudes may help to explain the increasing trend in labour market participation among younger cohorts. Employment growth between 1981 and 2001 has been skewed towards females. Between 1981 and 2001, female employment as a proportion of total employment increased from 37% to 45%. The driving force behind this growth in female employment is from increased part-time employment, especially in the services sector.

FURTHER INFORMATION

For more information about the analysis please contact Ravi Ravindiran on Canberra 02 6252 7039, or via email at <Ravi.Ravindiran@abs.gov.au>. For information about the Labour Force Survey please contact Peter Bradbury on Canberra 02 6252 6565, or via email at <Peter.Bradbury@abs.gov.au>

Experimental volume measures of labour underutilisation (Feature Article)

Feature Article - Experimental volume measures of labour underutilisation
This article was published in the July 2003 issue of **Australian Labour Market Statistics** (cat. no. 6105.0).

EXPERIMENTAL VOLUME MEASURES OF LABOUR UNDERUTILISATION

INTRODUCTION

The extent to which the available supply of labour is utilised is an important social and economic issue. In September 2002, there were just over 1.2 million people in the labour force whose labour was underutilised, offering a total of 29 million hours of additional labour.

While the number of unemployed people and the unemployment rate are the best known measures of labour underutilisation, broader measures can be formed by grouping information on unemployed people with that of other groups within the population whose labour is underutilised. The ABS already produces measures of labour underutilisation on a 'headcount' basis, i.e. based on the number of people whose labour is underutilised. These measures are presented in tables 4.1 and 4.2 in this publication, and are described in detail

in **Information Paper: Measures of Labour Underutilisation** (cat. no. 6296.0).

Labour underutilisation can also be measured in terms of the number of hours of labour that is underutilised. Such measures may be more relevant for analysing the spare capacity of the labour force. ABS has now developed an experimental hours-based (or 'volume') version of the labour force underutilisation rate for September 2002. Separate rates relating to the volume of unemployment and the volume of underemployment can also be calculated from the way the volume labour force underutilisation rate is derived.

This article presents experimental volume measures of underutilised labour for September 2002, describes how these experimental measures were calculated, and provides summary data on the hours of underutilised labour of unemployed and underemployed persons.

VOLUME MEASURES OF LABOUR UNDERUTILISATION

The volume labour force underutilisation rate is the ratio of the total volume of underutilised labour in the labour force (i.e. hours of work sought by unemployed persons plus additional hours of work offered by underemployed workers) to the total volume of utilised and underutilised labour in the labour force. The following equation describes the derivation of this measure (components of the equation are described in more detail in later paragraphs).

$$\text{Volume labour force underutilisation rate} = \frac{\left(\begin{array}{c}\text{Volume of labour}\\ \text{sought by}\\ \text{unemployed persons}\end{array}\right) + \left(\begin{array}{c}\text{Volume of additional}\\ \text{labour offered by}\\ \text{underemployed workers}\end{array}\right)}{\text{Volume of potential labour in the labour force}} \times 100$$

The volume of potential labour in the labour force is equal to the volume of labour sought by unemployed persons, plus the total volume of labour offered by underemployed workers, plus the volume of labour usually provided by fully employed persons (i.e. employed persons who were not underemployed).

A 'volume' version of the unemployment rate can be expressed as follows:

$$\text{Volume unemployment rate} = \frac{\text{Volume of labour sought by unemployed persons}}{\text{Volume of potential labour in the labour force}} \times 100$$

Similarly, a 'volume' version of the underemployment rate can be expressed as follows:

$$\text{Volume underemployment rate} = \frac{\text{Volume of additional labour offered by underemployed workers}}{\text{Volume of potential labour in the labour force}} \times 100$$

VOLUME OF LABOUR SOUGHT BY UNEMPLOYED PERSONS

Information about the number of people unemployed has been available from the ABS Labour Force Survey (LFS) since the 1960s. Until recently, information about the number of hours sought by the unemployed was not available from the LFS or other ABS data collections. From July 2002 this information is available annually from the Job Search Experience Survey (JSE).

The number of hours of work sought by unemployed persons that was used to derive the experimental volume measures of underutilised labour for September 2002 was estimated by applying the distribution of weekly hours sought from the July 2002 JSE to the numbers of unemployed persons seeking full-time and part-time work from the September 2002 LFS. This assumes that the distribution of hours sought in September 2002 is similar to that derived for July 2002.

Unemployment is the largest component of underutilised labour in the labour force. In September 2002 the 628,500 people who were unemployed comprised more than half (52%) of all persons in the labour force whose labour was underutilised. When measured in terms of the number of hours of labour that was underutilised, the 19.5 million weekly hours of work sought by unemployed people comprised more than two-thirds (68%) of the underutilised labour in the labour force.

UNEMPLOYED PERSONS, Number of persons and weekly hours of work sought - September 2002

		Males	Females	Persons
Looking for full-time work	'000 persons	287.3	167.4	454.7
Looking for part-time work	'000 persons	68.2	105.5	173.7
Total	**'000 persons**	**355.5**	**273.0**	**628.5**
Looking for full-time work	'000 hours	10,770.1	5,546.6	16,316.7
Looking for part-time work	'000 hours	1,274.1	1,927.8	3,201.9
Total	**'000 hours**	**12,044.2**	**7,474.4**	**19,518.6**

Source: September 2002 Labour Force Survey; July 2002 Job Search Experience Survey.

On average, unemployed people wanted to work 31 hours per week. Unemployed people looking for part-time work wanted to work an average of 18.4 hours and those looking for full-time work wanted an average of 35.9 hours. Unemployed men were more likely to be seeking full-time work than unemployed women (81% compared with 61%). Related to this, unemployed men tended to seek more hours of work than unemployed women (an average of 34 hours for unemployed men compared with 27 hours for unemployed women).

Source: July 2002 Job Search Experience Survey; September 2002 Labour Force Survey.

VOLUME OF ADDITIONAL LABOUR OFFERED BY UNDEREMPLOYED WORKERS

Underemployment refers to employed persons who work fewer hours than they want to. The ABS defines underemployed workers as:

- part-time workers (people usually working less than 35 hours a week and who did so in the reference week), who want to work additional hours and are available to do so; and
- full-time workers who worked less than 35 hours in the reference week for economic reasons (e.g. they had been stood down, put on short time or there was insufficient work available for them).

These two population groups are also referred to in this article as 'underemployed part-time workers' and 'underemployed full-time workers', respectively.

Information about the number of hours usually worked and the number of additional hours offered by underemployed part-time workers is available from the annual Underemployed Workers Survey conducted in September. The volume of additional labour offered by underemployed part-time workers was calculated as the difference between their preferred total weekly hours of work and the hours they usually worked in all jobs.

The volume of additional labour offered by underemployed full-time workers is, in a more precise sense, the volume of labour 'lost' as a result of their being stood down, put on short time, or due to insufficient work. This was calculated from the September 2002 LFS as the difference between their usual weekly hours of work and the (reduced) actual hours they worked in all jobs during the reference week.

In September 2002, an additional 9.1 million weekly hours of potential labour was offered by the 581,200 workers who were underemployed. The potential labour offered by underemployed part-time workers was 8.0 million hours and by underemployed full-time workers was 1.1 million hours.

UNDEREMPLOYED WORKERS, Number of persons and additional weekly hours of work offered - September 2002

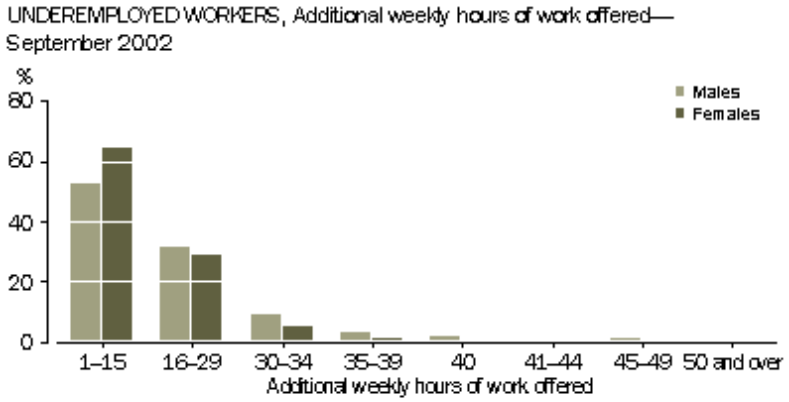
		Males	Females	Persons
Underemployed full-time workers (a) (b)	'000 persons	40.9	13.9	54.8
Underemployed part-time workers (c)	'000 persons	204.0	322.4	526.4
Total (b)	'000 persons	244.9	336.3	581.2
Underemployed full-time workers (a) (b)	'000 hours	858.8	260.6	1,119.4
Underemployed part-time workers (c)	'000 hours	3,405.0	4,567.9	7,972.8
Total (b)	'000 hours	4,263.7	4,828.5	9,092.2

Footnotes

(a) Full-time workers who worked less than 35 hours in the reference week for economic reasons (e.g. stood down, on short time, or insufficient work).
(b) The number of underemployed full-time workers used in volume measures is based on LFS data and differs slightly from the headcount measures in tables 4.1 and 4.2 of this publication.
(c) Part-time workers wanting more hours who were available to start work with more hours.

Source: September 2002 Underemployed Workers Survey; September 2002 Labour Force Survey.

Underemployed workers wanted an average of 15.6 hours of additional work each week, although underemployed men tended to want more additional hours than underemployed women (17.4 hours compared with 14.4 hours).



Source: *September 2002 Underemployed Workers Survey; September 2002 Labour Force Survey.*

VOLUME OF POTENTIAL LABOUR IN LABOUR FORCE

The volume of potential labour in the labour force was calculated as:

(i) the volume of labour sought by unemployed persons, plus

(ii) the volume of additional labour offered by underemployed workers, plus

(iii) the usual hours of work performed in all jobs by underemployed part-time workers, plus

(iv) the actual hours of work performed in all jobs in the reference week by underemployed full-time workers, plus

(v) the usual hours of work performed in all jobs by all other employed persons.

Components (i) and (ii), which represent underutilised labour in the labour force, have been described in previous paragraphs. The total of (iii) to (v), which represents utilised labour in the labour force, is sourced from the September 2002 LFS.

VOLUME OF POTENTIAL LABOUR IN THE LABOUR FORCE, Number of weekly hours - September 2002

	Males '000 hours	**Females** '000 hours	**Persons** '000 hours
Unemployed persons (hours of work sought)	12,044.2	7,474.4	19,518.6
Looking for full-time work	10,770.1	5,546.6	16,316.7

	Looking for part-time work	1,274.1	1,927.8	3,201.9
Underemployed workers (additional hours of work offered)		4,263.7	4,828.5	9,092.2
	Underemployed full-time workers	858.8	260.6	1,119.4
	Underemployed part-time workers	3,405.0	4,567.9	7,972.8
Employed persons (usual hours of work performed) (a)		215,668.6	128,503.5	344,172.1
	Full-time workers (a)	202,684.6	95,189.5	297,874.1
	Part-time workers	12,984.0	33,314.0	46,298.0
Total volume of potential labour in the labour force (b)		**231,976.5**	**140,806.4**	**372,782.9**

Footnotes
(a) Actual hours worked in the reference week for underemployed full-time workers and usual hours worked for all other employed persons.
(b) Hours of work sought by unemployed persons, plus the total hours of work offered by underemployed workers, plus the usual hours worked by fully employed persons (i.e. employed persons who were not underemployed).

LIMITATIONS OF VOLUME MEASURES

The experimental volume measures for September 2002 are based on data from a number of sources. Information on the hours of work sought by unemployed persons is only available in respect of July each year, starting with July 2002. The distribution of hours sought by unemployed persons in July 2002 was derived separately for unemployed persons looking for part-time work and for those looking for full-time work, by sex and state/territory. It is assumed that the distribution of hours sought by unemployed persons for September 2002 is similar to that derived for July 2002. This assumption is made more robust by using characteristics that have a significant influence on the number of hours sought, i.e. looking for part-time or full-time work, in deriving the distribution. In addition, there are unlikely to be significant seasonal differences between the two months of July and September.

There is also an implied assumption underlying the way ABS measures labour force underutilisation that full-time workers do not offer any more labour than their usual hours of work. The experimental volume measures of labour force underutilisation do not include estimates of the additional hours of work that full-time workers were willing and available to work, over and above their usual hours of work. Information from the 2000 Survey of Employment Arrangements and Superannuation (SEAS) indicates that 16% of full-time employees (excluding owner-managers) preferred to work more hours. However, data are not available on the number of additional hours of work offered by full-time workers.

For some analytical purposes, it may be desirable to deduct hours of 'overwork' (the number of hours usually worked in excess of the preferred hours) from the volume of utilised labour, to give a measure of hours of work willingly offered. Information from SEAS indicates that 4% of part-time and 8% of full-time employees (excluding owner-managers) preferred to work fewer hours (for less pay). However, data are not available on the number of hours of 'overwork' of full-time or part-time workers.

COMPARISON OF VOLUME AND HEADCOUNT MEASURES

The following table compares the experimental volume measures with the corresponding

headcount measures. (The headcount measures use the number of underemployed full-time workers from LFS data and differ slightly from those in tables 4.1 and 4.2 in this publication.) For all three underutilisation measures (i.e. unemployment, underemployment and labour force underutilisation), the experimental volume rates for September 2002 were lower than the corresponding headcount rates.

MEASURES OF LABOUR UNDERUTILISATION, Selected headcount and volume measures - September 2002

	Males %	Females %	Persons %
Headcount measures (a)			
Unemployment rate	6.3	6.1	6.2
Underemployment rate	4.4	7.5	5.8
Labour force underutilisation rate	10.7	13.6	12.0
Volume measures (b)			
Volume unemployment rate	5.2	5.3	5.2
Volume underemployment rate	1.8	3.4	2.4
Volume labour force underutilisation rate	7.0	8.7	7.7

Footnotes
(a) Based on the number of persons.
(b) Based on the number of hours of labour sought and offered.

FURTHER INFORMATION

Information Paper: Measures of Labour Underutilisation (cat. no. 6296.0) describes concepts behind the ABS headcount measures of labour underutilisation in detail. To provide comments on the the proposed methodology for volume measures of labour underutilisation, or for further information relating to these experimental measures, please contact Rhonda de Vos on Canberra 02 6252 7437 or email **rhonda.devos@abs.gov.au**.

Technical report: Measures of weekly hours worked (Feature Article)

Feature Article - Technical report: Measures of weekly hours worked

LABOUR FORCE SURVEY

INTRODUCTION

When the redesigned Labour Force Survey (LFS) questionnaire was introduced for the April 2001 survey, two new measures of weekly hours worked were included. The new measures complement the existing hours worked measure that has been used since the beginning of

the LFS in the 1960s.

This article looks at the three measures now available from the survey, discusses their differences and gives examples of how they may be used.

LFS HOURS WORKED DATA

Three hours measures

The LFS now records weekly hours worked data for employed persons on three different bases:

- The existing measure **actual hours worked in all jobs** refers to hours actually worked in the survey reference week, including overtime and excluding any time off.
- The new measure **actual hours worked in main job** refers to hours actually worked (including overtime and excluding any time off) in the job in which the most hours are usually worked.
- The new **usual hours worked in all jobs** measure refers to the normal working pattern over the past three months in all jobs, including overtime if that has been a regular part of work over that period.

For persons with only one job, the first two measures will be the same.

Three presentation forms

There are many ways of presenting weekly hours worked data. Those in general use for the LFS are:

- simple aggregates of hours worked (formed by summing reported working hours for employed persons in a particular group)
- number of employed persons in hours groups (those actually working 35 to 39 hours per week, for example)
- average weekly hours worked (the simple arithmetic mean, formed by dividing aggregate hours by the number of persons employed in the same group).

Choice of the most appropriate hours measure and of the form in which it might best be presented depends on the aim of the analysis.

USING LFS HOURS MEASURES

Actual hours worked in all jobs

Collected since the national survey began in the 1960s, this approach reflects the economic roots of the LFS. As recommended by the International Labour Organisation, the survey measures the labour supply available for the production of goods and services as presented in the National Accounts. Actual hours worked in all jobs thus represents the total volume of labour activity in a given period. See tables 2.5, 2.6, 2.7 and 2.8. Actual hours worked in all jobs is also used for measuring labour productivity — the relationship between GDP and

hours worked.

Usual hours worked in all jobs

Introduced in the April 2001 survey, data are available only from that survey onwards. Earlier surveys recorded only whether or not persons actually working less than 35 hours (in all jobs) **usually** worked less than 35 hours per week, the information being used to determine Full-time/Part-time Status.

The new series reflects the usual working pattern of employed persons, unaffected by seasonal influences arising from school holidays and other periods in which leave is commonly taken (Easter, Christmas and so on) and other regular changes in working hours. The data are also free of the impact of other time taken off work (illness, for example), or additional time worked (whether as paid or unpaid overtime).

This measure offers a useful source for comparison with actual hours worked data, where there is a need to understand ongoing working arrangements. See table 2.8.

Actual hours worked in main job

Introduced in the April 2001 survey, there is no comparable measure prior to that date.

In the LFS, a number of questions (Industry and Occupation for example) relate only to an employed person's main job. For multiple job holders, then, weekly hours worked in their main job offers a useful additional measure. For example, analysis of average hours actually worked in main job by Occupation or Industry may be more appropriate for multiple job holders than the conventional average hours in all jobs.

Data on actual hours worked in main job are not currently presented in **Australian Labour Market Statistics** (cat. no. 6105.0) tables.

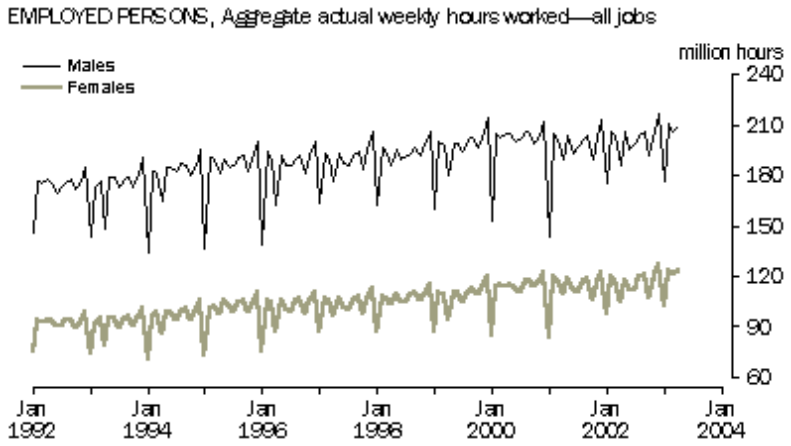
PRESENTING HOURS MEASURES

Aggregate hours

Based on actual hours worked in all jobs, aggregate hours worked is of interest because it represents the total volume of hours worked by the labour force producing economic goods and services in the survey reference week.

As the data are collected in relation to particular survey reference weeks, they may not reflect the whole month, requiring a range of adjustments and other inputs for National Accounts labour productivity purposes.

Aggregate weekly hours worked data are presented in the Labour Market Summary table on page 5.



Changes in the level of aggregate weekly hours worked over time reflect the combined effect of changes in the level of employment and in the hours worked by employed persons, as both respond to short-term fluctuations and the underlying business cycle. Expressed in original monthly terms, aggregate hours data are highly seasonal with some complex features.

In recent years, male and female aggregate hours have been growing at broadly the same rate, although female employment has been growing more strongly than male employment. This result reflects the strong contribution of part-time employment to rising female employment.

Hours worked groups

An insight into the patterns of work of employed persons (in number or proportion) can be gained from classifying the chosen data by weekly hours of work expressed in groups.

Comparison between different populations of interest (or at different points in time) helps to illustrate change in the structure of the labour force and the possible social impact of changes in working time.

Unlike the equal intervals of years commonly used in classifying data by Age group, the established practice of unequal hours groups in ABS labour force data recognises workplace norms, including the historical importance of the 40 hour working week.

EMPLOYED PERSONS, Actual hours worked in all jobs

	August 1982				August 2002			
Hours worked	**Males** %	**Females** %	**Persons** %	**Persons** '000	**Males** %	**Females** %	**Persons** %	**Persons** '000
0	5.3	5.5	5.4	341.8	4.6	5.1	4.8	447.4
1-15	3.2	17.7	8.6	546.2	7.3	18.7	12.3	1,148.6
16-29	5.6	16.4	9.6	610.9	8.3	20.5	13.7	1,279.1
30-34	7.4	8.7	7.9	503.2	6.4	10.4	8.2	762.8
35-39	15.3	16.6	15.8	1,007.3	14.8	15.8	15.2	1,418.6
40	29.2	23.1	27.0	1,719.9	16.7	11.3	14.3	1,334.6
41-44	6.3	3.8	5.3	340.6	5.7	4.0	5.0	460.9
45-49	9.4	3.1	7.1	451.4	10.4	5.5	8.3	769.6
50 and over	18.2	5.3	13.5	858.1	25.8	8.5	18.1	1,688.4

Total	**100.0**	**100.0**	**100.0**	**6,379.3**	**100.0**	**100.0**	**100.0**	**9,310.1**

In August 2002, as in August 1982, similar proportions of employed males and females were absent from work for the whole of the survey reference week and reported working zero hours.

In both 1982 and 2002, in each hours group up to 30 to 34 hours, the proportion of employed females was markedly higher than that for males, reflecting the strength of female part-time employment (broadly, those working less than 35 hours per week). Similar proportions of males and females reported working 35 to 39 hours per week in all jobs. Higher proportions of males reported longer working hours, particularly in the upper ranges.

Between 1982 and 2002, there was a substantial reduction in the proportion of persons working 40 hours per week, while there were increases in the proportions of those working 1 to 29 hours, and those working 45 hours or more.

EMPLOYED PERSONS, Hours worked in all jobs — August 2002

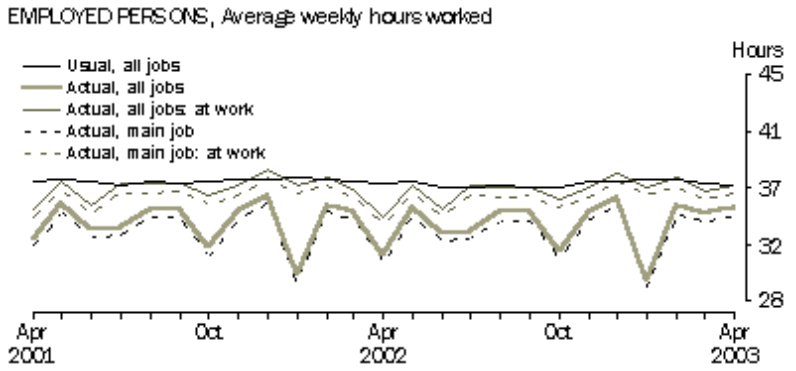
	Actual hours		Usual hours	
Hours worked	'000	%	'000	%
0	447.4	4.8	25.6	0.3
1-15	1,148.6	12.3	1,113.3	12.0
16-29	1,279.1	13.7	1,131.4	12.2
30-34	762.8	8.2	505.3	5.4
35-39	1,418.6	15.2	1,893.3	20.3
40	1,334.6	14.3	1,868.6	20.1
41-44	460.9	5.0	325.5	3.5
45-49	769.6	8.3	772.2	8.3
50 and over	1,688.4	18.1	1,674.9	18.0
Total	**9,310.1**	**100.0**	**9,310.1**	**100.0**

Overall, about 5% of those employed were absent from work for the whole week in August 2002. Small numbers of employed people also report that they usually work zero hours: by far the majority of these were in part-time employment at the time of the survey (presumably in short-term jobs).

The proportions working between 1 and 29 hours per week were similar for actual hours worked and usual hours worked in all jobs. Differences in other groups were more pronounced, reflecting the incidence of time off and overtime. A 40 hour week was often reported, particularly for hours usually worked. The proportion of persons working 50 hours or more, under either measure, is also notable.

Average weekly hours worked

This simple and very common method offers a broad insight into differences in work patterns, either between different groups or over time.

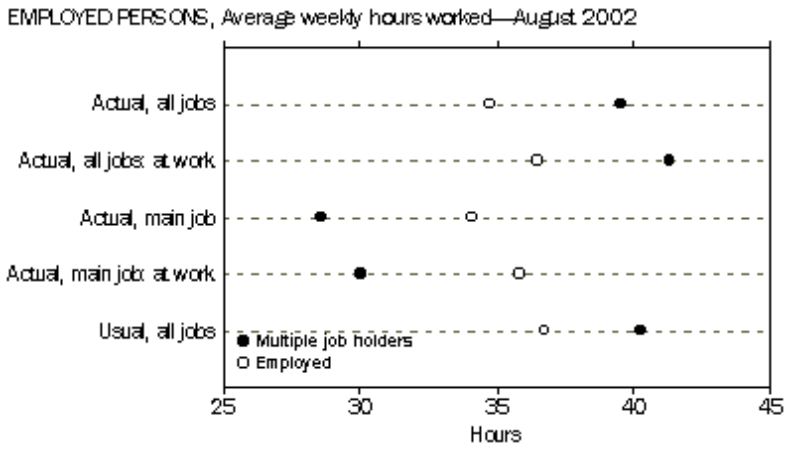


Some care needs to be taken in choosing, comparing and interpreting simple arithmetic averages. Although their very simplicity is appealing, averages may disguise widely differing contributions between their underlying groups, or changes in group behaviour.

Partly for that reason, past LFS practice for average hours worked data was to present average actual weekly hours worked for two groups: all employed persons, and employed persons at work (that is, excluding the employed who, absent from work in the reference week, worked 0 hours). The marked difference between the two measures is clearly illustrated in the graph above.

Even in the short period since April 2001, the seasonal influences on the average actual hours series, whether arising from social factors (customs in leave-taking) or from economic factors (workplace-related influences), are clearly apparent. It is also apparent (if not unexpected) that average actual weekly hours for those at work is noticeably less seasonal than average actual weekly hours for all employed persons.

Again as expected, while closely following the month-to-month pattern of average weekly hours in all jobs for employed persons, average weekly hours in main job lies at a slightly lower level.
Average usual hours worked in all jobs appears to be the least seasonal of the three average hours measures.



The above graph compares average actual hours and average usual hours for all employed persons and for multiple job holders. The impact of absence from work is seen to be similar for both groups, at somewhat over 1 hour per week. The impact of the additional hours worked by multiple job holders is also readily apparent: about 11 hours per week in the second or subsequent jobs, on average, while working less hours in the main job (in comparison with other employed persons).

OTHER HOURS MEASURES

Other hours measures arise in the business survey context of jobs data, including the **hours paid for** measure provided by the (business) Survey of Employee Earnings and Hours, and the **normal hours concept** (used purely in the classification of jobs data to full-time or part-time).

CONCLUSION

Whether taken from an economic perspective or from a social one, the LFS offers a rich source of information about the working hours of the employed population.

For further information about LFS hours worked data, please contact Peter Bradbury, Assistant Director, Labour Force and Supplementary Surveys Section on Canberra 02 6252 6565 or email <peter.bradbury@abs.gov.au>.

The underlying concepts and structure of Australian labour statistics and the sources and methods used in their compilation are described in **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0), which is also available on the ABS web site <www.abs.gov.au> (About Statistics — Concepts and Classifications).